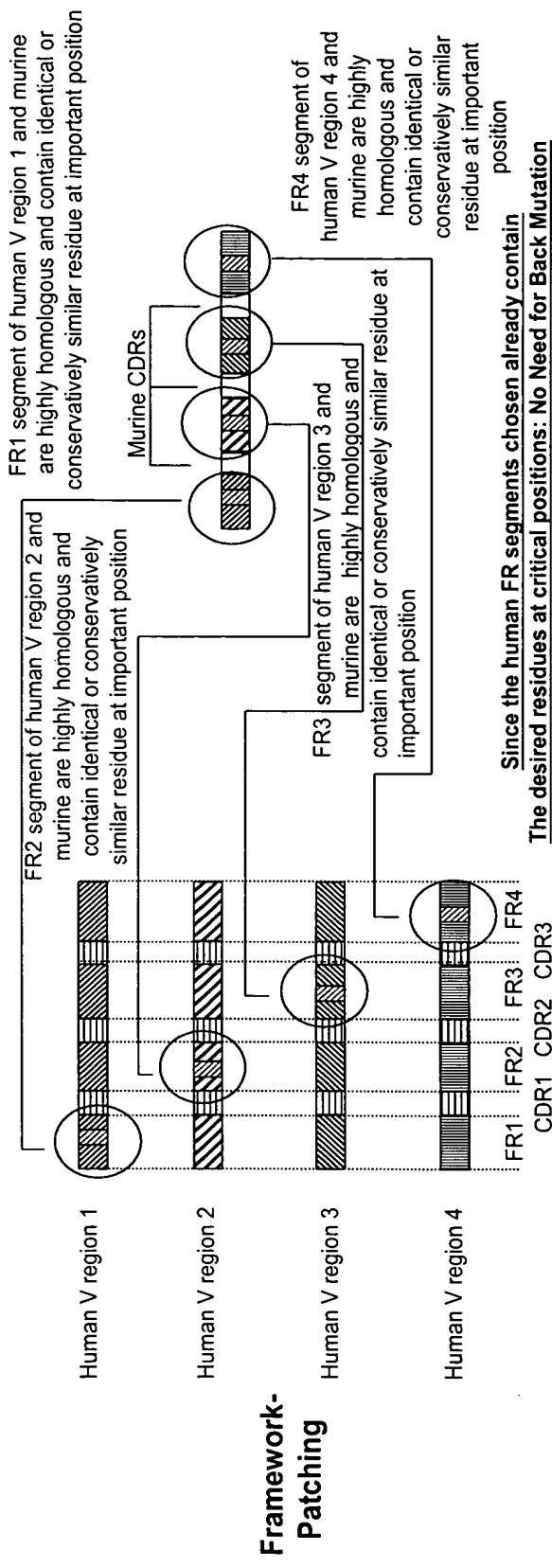
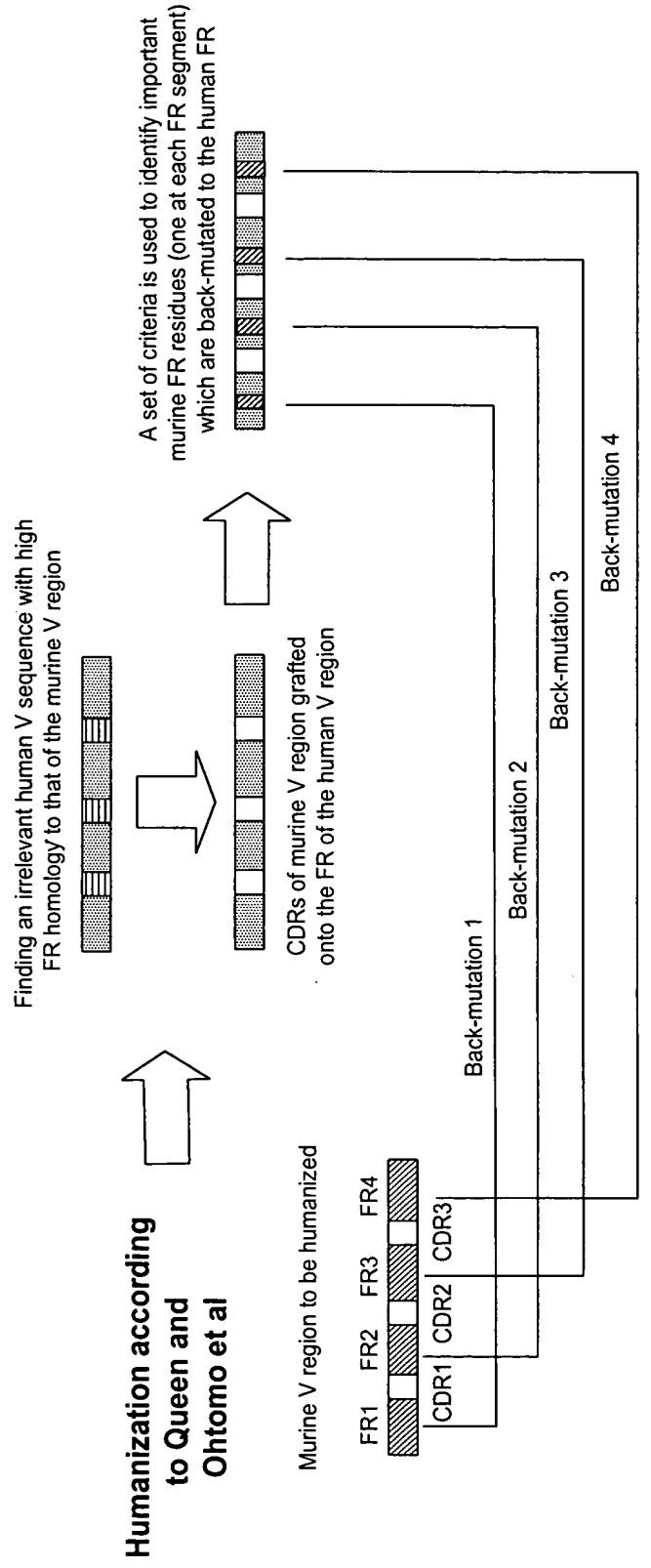
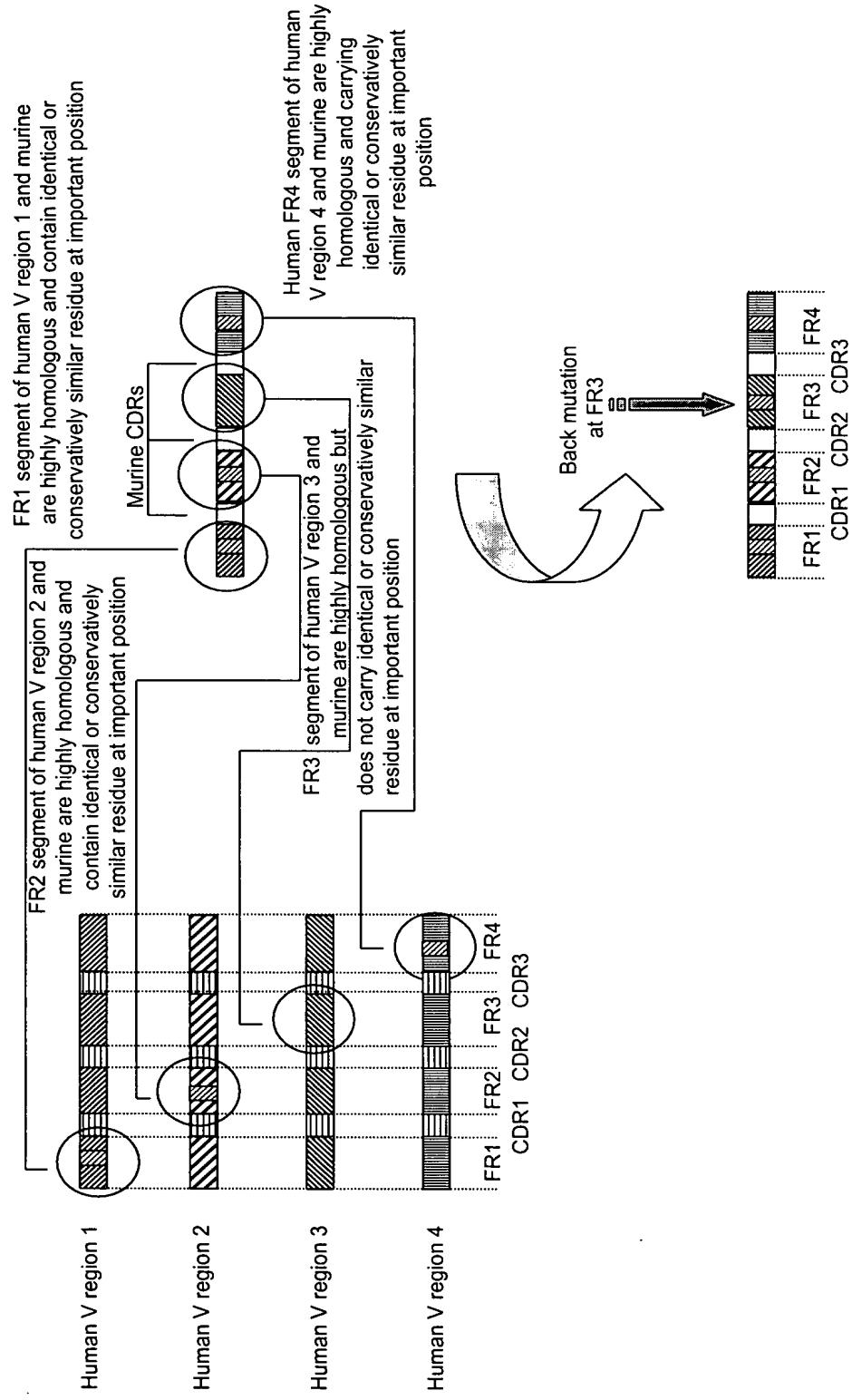


Diagrams Illustrating the Differences between Framework-Patching and Humanization



Back Mutation After Framework-Patching Minimizes Back-Mutated Residues



Since the FR1, FR2, and FR4 chosen already contain the desired residues at critical positions.
No Need for Back Mutation at these segments. FR3 requires one additional modification (back-mutation) to restore binding function. A total of ONE back-mutation is required (instead of 4 using Queen's approach)